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(54) MANUFACTURE OF ANISOTROPIC RARE-EARTH MAGNET POWDER

(57)Abstract

PROBLEM TO BE SOLVED: To provide a method for manufacture, in which anisotropic rare-earth magnet powder having high making-anisotropic rate and magnetic coercive force is industrially producible.

SOLUTION: A method for manufacturing anisotropic rare-earth magnet powder contains a low-temperature hydrogenating process, in which raw material alloy is made to contain hydrogen required for three-phase decomposing reaction, a high-temperature hydrogenating process in which the forward construction transformation reaction is progressed quietly to obtain three-phase decomposed construction and further crystal orientation of a R2Fe14B phase of mother alloy is transferred to a Fe2B phase, and a dehydrogenating process, in which the reaction is progressed with hydrogen pressure as high as possible to progress a reverse construction transformation reaction quietly to make the crystal orientation of a fine recombined R2Fe14BHx phase uniform with the crystal orientation of the Fe2B phase as a nucleus. In this manufacturing method, a recrystallized construction after hydrogen-treatment is made fine and uniform, and high making-anisotropic rate and magnetic coercive force are obtained.

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